

REMARKS/ARGUMENTS

Summary of Rejections

Claims 1-3, 5, 6, 8-15, 17-20, 22-26 and 28-30 were pending at the time of this Final Office Action.

Claims 17-20 and 30 were rejected under 35 U.S.C. § 112, second paragraph.

Claims 1-3, 12, 28 and 29 were rejected under 35 USC § 103(a) over *Huang* in view of *Green*.

Claims 5, 6, 8-11 and 22-26 were rejected under 35 USC § 103(a) over *Huang* in view of *Green* and *Cooperman*.

Claims 13-15 were rejected under 35 USC § 103(a) over *Huang* in view of *Green* and *Widjaja*.

Claims 17, 18, and 30 were rejected under 35 USC § 103(a) over *A. Huang* in view of *Green*.

Claims 19-20 were rejected under 35 USC § 103(a) over *A. Huang* in view of *Green* and *Cooperman*.

Summary of Response

Claims 17 and 19 are amended.

Claims 4, 7, 16, 21, and 27 were previously canceled.

Summary of Pending Claims

Claims 1-3, 5, 6, 8-15, 17-20, 22-26, and 28-30 are currently pending following this response.

Applicant hereby requests further examination and reconsideration of the presently claimed application.

Claim Rejections and Response – 35 USC § 112

Claims 17-20 and 30 stand rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that the Applicant regards as the invention. More specifically, the Examiner stated that claim 17 was indefinite because the limitation “said second stage” in item (c) has an insufficient antecedent basis in the claim. Claims 18-20 and 30 stand rejected because they depend on claim 17. The Applicant has amended claims 17 and 19 to overcome this rejection. The amendments to claims 17 and 19 also overcome the insufficient antecedent basis rejection to dependant claims 18, 20 and 30.

Claims Rejections – 35 USC § 103

Claims 1-3, 12, 28 and 29 stand rejected under 35 USC § 103(a) as being unpatentable over *Huang* (U.S. 4,516,238) in view of *Green* (U.S. 5,687,324). Claims 5, 6, 8-11 and 22-26 stand rejected under 35 USC § 103(a) as being unpatentable over *Huang* in view of *Green* and *Cooperman* (U.S. 5,862,128). Claims 13-15 stand rejected under 35 USC § 103(a) as being unpatentable over *Huang* in view of *Green* and *Widjaja* (U.S. 5,440,553). Claims 17, 18 and 30 stand rejected under 35 USC § 103(a) as being unpatentable over *A. Huang* (U.S. 4,542,497) in view of *Green*. Claims 19-20 stand rejected under 35 USC § 103(a) as being unpatentable over *A. Huang* in view of *Green* and *Cooperman*. Claims 7, 16, and 21 are canceled, claims 2, 3, 5, 6,

8-11, 22-26, and 28 depend on claim 1, claims 13-15 and 29 depend on claim 12, and claims 18-20 and 30 depend on claim 17. Thus, claims 1-3, 5, 6, 8-15, 17-20, 22-26, and 28-30 stand or fall on the application of *Huang* and *Green* to independent claims 1 and 12 and *A. Huang* and *Green* to independent claim 17.

Response to Claims Rejections – 35 USC § 103

Applicant describes an improved switching architecture for networks that includes, among other things, a non-recirculating sort-trap stage for data cells.

Applicant's independent claims 1, 12 and 17 stand rejected under 35 USC § 103 based on Examiner's interpretation of *Green* in combination with other patent references. Applicant respectfully disagrees with Examiner's position and asserts that Examiner was led astray by hindsight in his interpretation of *Green*. **New evidence in the form of U.S. Pat. No. 5,287,346 is offered in support of Applicant's interpretation of *Green*.**

Specifically, Examiner relies on the description of a prior art multicast telecommunication architecture as described in Figure 2 and column 2, lines 10-47 of *Green* in combination with *Huang* or *A. Huang*. Applicant notes with appreciation Examiner's observation that both *Huang* and *A. Huang* fail to disclose a non-recirculating sort-trap stage. See Office Action pages 6, 7, 11, 16 and 18. Examiner relies entirely on *Green* for this aspect of Applicant's claims.

Examiner's and Applicant's positions regarding the application of both *Huang* and *A. Huang* as well as the other references are fully stated in the responses to prior Office Actions. Those positions are incorporated by reference, without conceding Examiner's position, and will not be reiterated below. Applicant's comments below respond solely to Examiner's interpretation of *Green* and its applicability to Applicant's independent claims 1, 12 and 17.

Examiner states at page 22 of Office Action that:

Examiner wants to reiterate that **the rejections of all claims were based on the embodiment represented by Green's Fig 2.** The body of Green's disclosure outside of Figure 2 is a different embodiment and has no bearing on the rejection presented in this or previous Office Action.

Examiner relies on elements 38, 44, 46 and 48 of *Green's* Fig 2 "background" discussion to find that *Green* discloses Applicant's non-recirculating sort and trap stage for data. Applicant disagrees and respectfully submits that this reliance on *Green* is impermissible hindsight. Putting aside without concession whether or not it is proper to combine the references as cited above, it is clear from the discussion below that Examiner misconstrued *Green*.

As shown in Applicant's Figures 3 and 4, Applicant describes a cascade switch configuration with a non-recirculating sort-trap stage. Input cells with a unique destination address are passed to their corresponding output destination through a sort-trap stage while cells with a non-unique destination address are held and aged until their address becomes unique in subsequent time cycles [0011].

Green's "background" discussion (Fig. 2 and column 2) relates to the routing of cells with non-unique addresses from a "multicast network" 38 via a "look up table" (not shown) through a "feedback network" 46 to an "output network" 42 into an "output queue" 48. See *Green* column 2, line 29-35; column 3, lines 1-8 and Fig 2. *Green* refers to this as a path for "**feedback cells**". See column 2, line 32. Cells with unique cell addresses avoid the feedback path and are passed directly to the output network. See column 2, lines 27-29.

Green's discussion of this "background" multicast network configuration is cursory and confusing, but it clearly **does not describe a non-recirculating sort-trap data flow** stage as claimed by Applicant. For example, in describing this Fig 2 "background" configuration, *Green*

states at column 2, line 66 to column 3, line 8:

As described above, the multicast/feedback path that combines the multicast and feedback networks 38 and 46 carries out several multicast and feedback operations on every cell. *** The feedback operations include control information transferred from the output network 42 to the multicast network 38 to resolve contention at the input of the output network 42.

In other words, a fair reading of *Green* is that its “Feedback Network” 46, while poorly described, is part of a feedback data loop extending between the output network (42) and the input of the multicast network (38) used to resolve output address contention. The use of the terms “feedback network” and “feedback cells” by *Green* are not misnomers, as they must be if Examiner’s reading of *Green* is correct.

This is an unusual case in which an ambiguous prior art reference explains itself elsewhere. *Green* refers us to a more complete description of this “background” embodiment.

Green states at column 2, lines 63-65:

The structure and operation of the elements shown in Fig 2 are disclosed in more detail in U.S. Pat. No. 5,287,346 incorporated herewith by reference.

Applicant respectfully requests that U.S. Pat. No. 5,287,346 to Bianchini et al (hereafter *Bianchini*) be made of record in this application as “of interest” to the background discussion of *Green*. *Bianchini* describes *Green*’s “background” structure in general terms at column 4, lines 15-23 as follows:

The switch architecture is illustrated in Fig 1. The architecture consists of a shared-memory input queue and a switching network. Packets can arrive on N input ports. The switching network sorts the packets according to the output port required for each packet. At most one packet is routed to each output port. Additional packets for each output port are returned to the input queue for subsequent transmission.

A copy of *Bianchini*’s Fig 1 is attached (Exhibit A).

Green’s Fig 2 “background” shows a multicast network. *Bianchini*’s Fig 9 (copy also

attached (Exhibit B)) illustrates such a multicast network in greater detail. It shows the feedback path for cells with non-unique addresses from the input of the output switch 40 back to the input of the “multicast expansion and feedback network” 38 at path 11.

At best, *Green* teaches away from the use of the “background” configuration described in greater detail by *Bianchini*. *Green* observes that *Bianchini*’s architecture presents substantial timing and other practical problems. See, for example, *Green* column 3, lines 8-16:

However, to provide interaction between multicast and feedback operations performed on every cell, they should be accomplished within one cell time.... As the number of ports increases (e.g. up to 256) more operations are required to be performed by the multicast/feedback path within the cell time. Hence, there is a need for increasing the number of clock cycles available for the multicast/feedback path within a fixed amount of time.

Green attempted to solve the deficiency in the *Bianchini* configuration with the newer embodiments described in the *Green* patent. As noted by Examiner in the Final Office Action page 22 (quoted above), these other embodiments of *Green* have no bearing on the patentability of Applicant’s solution. Applicant agrees with Examiner that *Green* chose a different solution from the one taken by Applicant.

Applicant respectfully submits that Examiner’s conclusion that *Green*’s “background” discussion teaches a non-recirculating sort-trap stage is in error and based on hindsight. As noted in MPEP §2142:

The tendency to resort to "hindsight" based upon Applicant’s disclosure is often difficult to avoid due to the very nature of the examination process. However, impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art.

Green’s own internal reference to *Bianchini* supports the conclusion that Examiner was led astray in his reading of *Green* through his knowledge of Applicant’s disclosure.

CONCLUSION

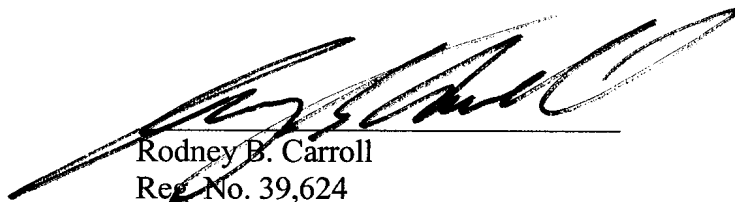
Consideration of the foregoing amendments and remarks, reconsideration of the application, and withdrawal of the rejections is respectfully requested by Applicant. No new matter is introduced by way of the amendment. It is believed that each ground of rejection raised in the Final Office Action dated October 30, 2006 has been fully addressed. If any fee is due as a result of the filing of this paper, please appropriately charge such fee to Deposit Account No. 21-0765, Sprint. If a petition for extension of time is necessary in order for this paper to be deemed timely filed, please consider this a petition therefore.

If a telephone conference would facilitate the resolution of any issue or expedite the prosecution of the application, the Examiner is invited to telephone the undersigned at the telephone number given below.

Respectfully submitted,
CONLEY ROSE, P.C.

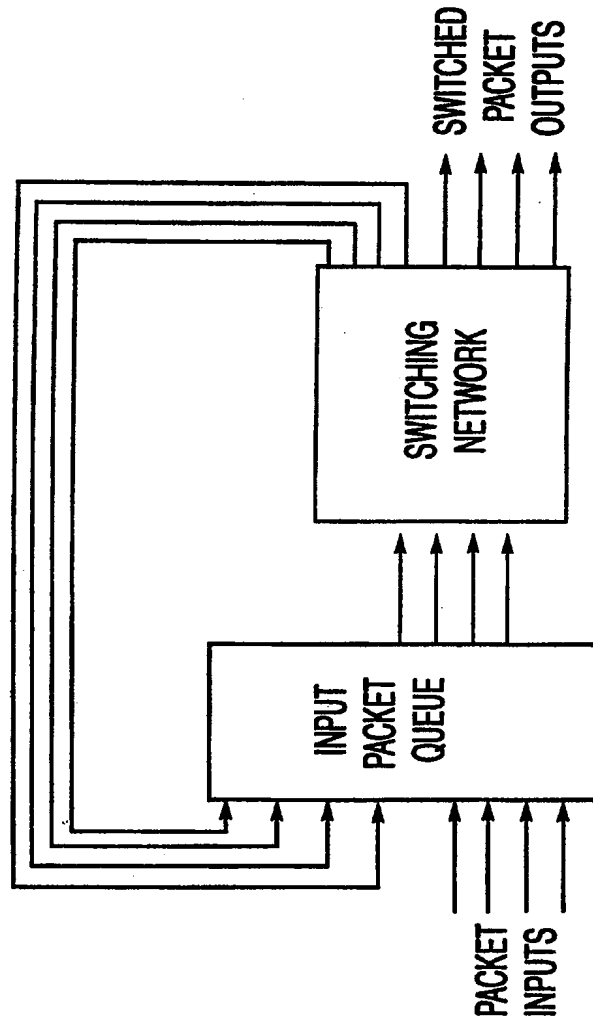
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**FIGURE 1**

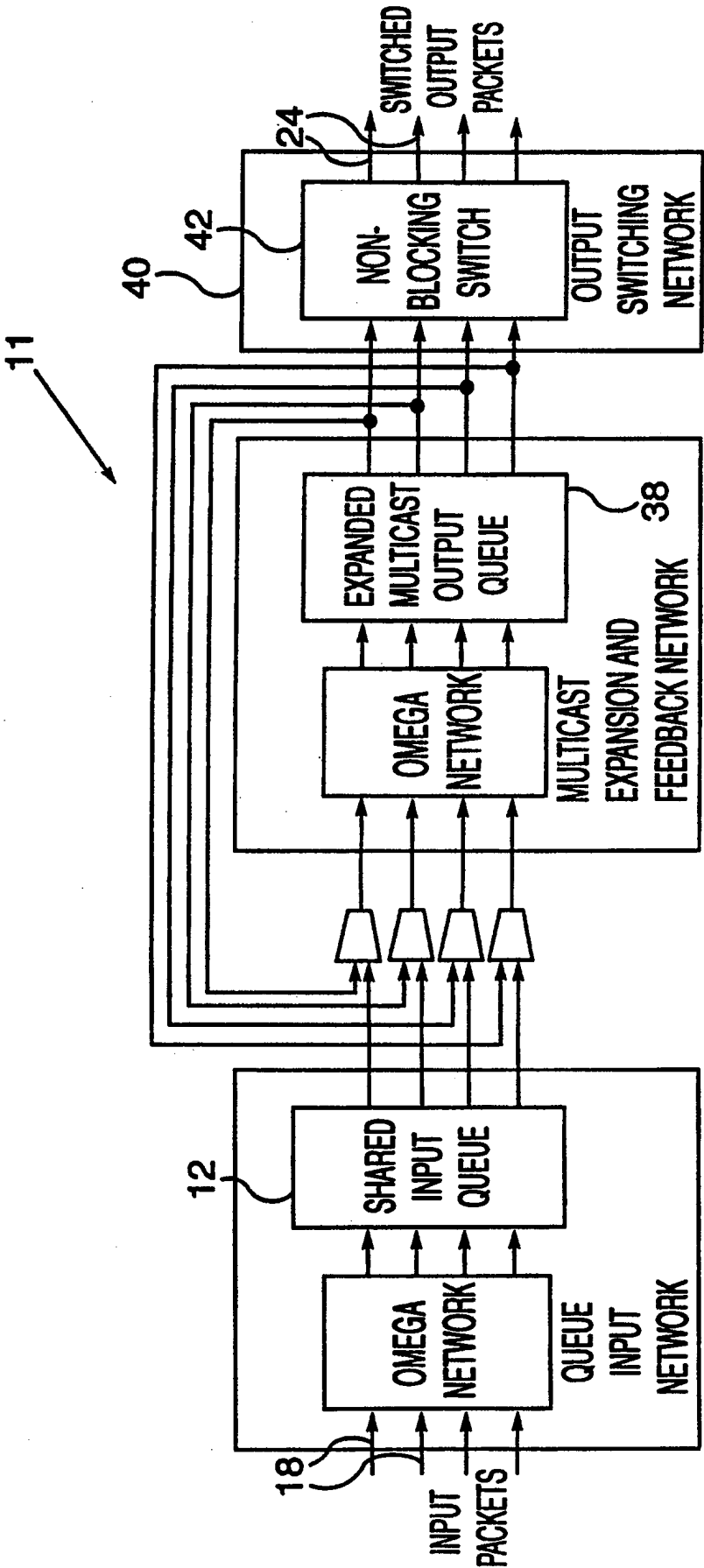


FIGURE 9